

## **Bureaucrats and Managers, Peasants and Pastoralists, Imperialists and Traders: Research on the Uruk and Jemdet Nasr Periods in Mesopotamia**

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*In recent decades the Uruk and Jemdet Nasr periods of the fourth millennium B.C. in Mesopotamia have been the subject of considerable research by scholars of the ancient Near East. Interests in and interpretations of these periods have focused on their credentials as early states, urban societies, and the immediate antecedents of Sumerian civilization. In this overview, I first present a brief historical background on the study of these periods, followed by a critical review of recent approaches that have had significant impacts on current directions of research and understanding of the fourth millennium. Finally, I suggest some research avenues currently being tentatively explored that may be especially appropriate for developing further our understandings of these periods.*

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**KEY WORDS:** Mesopotamia; states; urbanism; exchange; production.

### **INTRODUCTION**

Reading recent archaeological literature on Mesopotamia, one cannot fail to be impressed by the momentous achievements with which the societies of the fourth millennium B.C. have been credited. Identification and interpretation of these achievements are diverse, varying according to the predilections of different researchers. To some, the fundamental development was the origin of the first states in the early part of the Uruk period and their subsequent consolidation and, in some cases, collapse (Wright and Johnson, 1975; Johnson, 1973, 1987, 1988–1989; Wright, 1977, 1978). Others have identified urbanization, which makes rapid advances in the fourth millennium and reaches a peak in the mid-

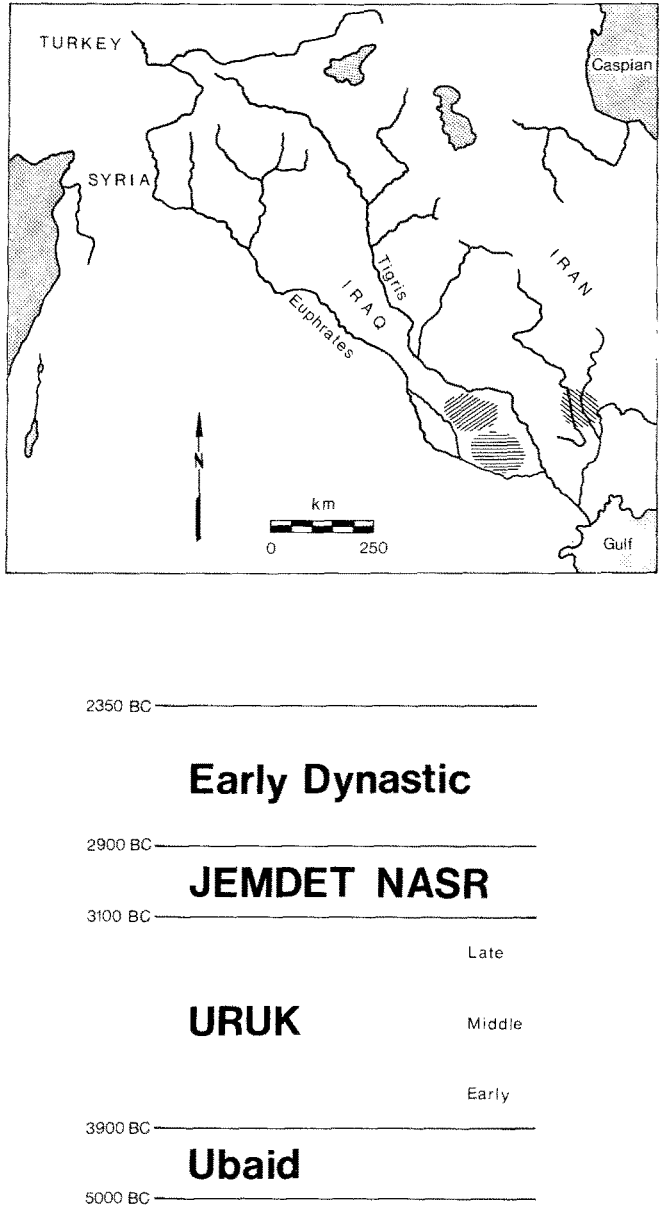
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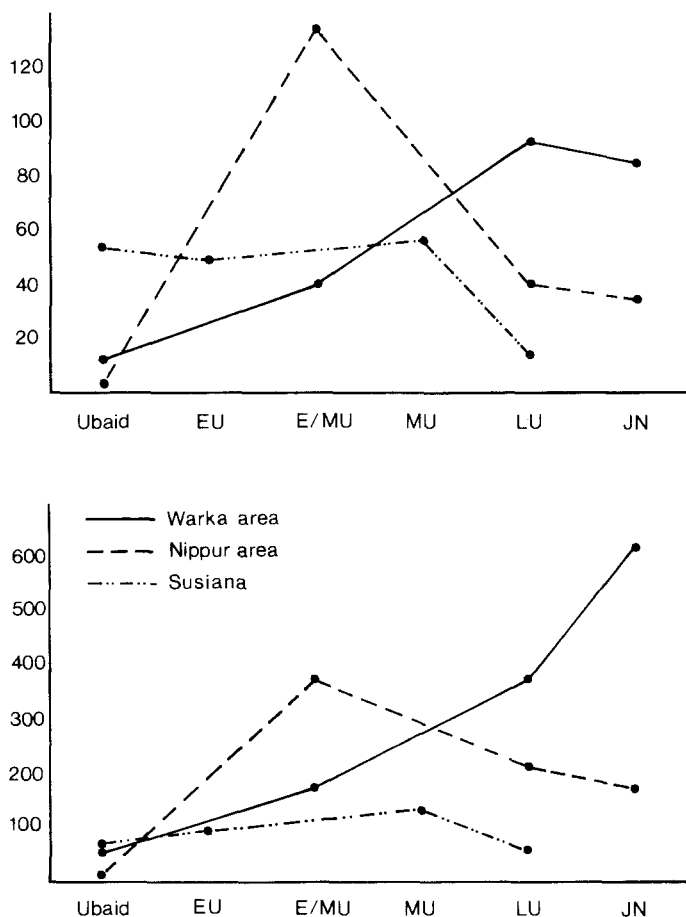
third millennium, as the most critical development (Adams, 1966, 1981; Redman, 1978; Huot *et al.*, 1990). Yet others have interpreted the seeming explosion of southern Mesopotamian-related Uruk material in Late Uruk in areas as distant as southeastern Anatolia and southern Iran as indications of the existence of an empire and its colonies (Algaze, 1989). And still others have emphasized the increasing bureaucratization that accompanied the rising social and economic complexity that is associated with the development of early civilization (Nissen, 1977, 1986, 1988; Nissen *et al.*, 1990).

The arguments used to support these and other contentions about the Uruk and Jemdet Nasr periods rest upon more than a century of fieldwork in which remains of these periods have been explored, albeit not always intentionally, and some of their distinctive characteristics recognized. Remarkable increases in the size and numbers of sites occurred in the Uruk relative to the preceding Ubaid period, and massive shifts in settlement also took place during the course of the fourth millennium (Figs. 1 and 2). Some sites grew to hitherto unprecedented sizes that seem deserving of the terms town or city. By the end of the fourth millennium, some communities were walled. Architecture, especially of "public buildings," became increasingly grandiose and differentiated from domestic architecture (Fig. 3). In the realm of craft production, the Uruk period saw the appearance of a particular type of pottery—the beveled rim bowl—that occurred in vast quantities and was apparently mass-produced (Fig. 4). Large, coarse conical bowls seem to have been their direct successors in the Jemdet Nasr period (Fig. 5). Various technological changes were introduced, including mold manufacture (of beveled rim bowls), throwing pottery on the wheel, and the use of mechanical tools for cutting seals. Artifacts used in bureaucratized systems of accounting proliferated in seemingly rapid succession, with the advent of cylinder seals, sealed clay "envelopes" or bullae (Fig. 6), and finally, clay tablets containing writing (Fig. 7). A major break with previous periods seems to have occurred in the realm of burial practices—in place of the ubiquitous Ubaid cemeteries and subfloor pot burials, there is an almost-complete lack of Uruk burials apart from that of the occasional infant or child, suggesting that most of the dead were disposed of in an archaeologically invisible fashion (perhaps being floated down the river toward the semimythical Dilmun?). Iconography, principally on seals, shows scenes of bound prisoners and armed individuals, some of the first clear pictorial evidence of the use of physical force.

I begin this review by setting the stage in two ways: first, by raising the issue of how the practice of archaeology impinges on and is impinged upon by "the real world," specifically in light of recent events in the Mesopotamian region; and second, by a summary of features of the environment that affected ancient settlement in the region and some general characteristics of the archaeological sites. This is followed by an overview of the history of archaeological



**Fig. 1.** Chronological chart and map of Mesopotamia and surrounding regions. The hatched areas on the map indicate some of the regions specifically mentioned in the text: diagonal hatched lines from upper left to lower right represent the Susiana Plain; those from upper right to lower left, the Nippur-Adab region; and the horizontal lines, the Warka region. The chronology is based on radiocarbon dates.



**Fig. 2.** Schematic representations of changing settlement patterns in the Susiana, Nippur-Adab, and Warka regions. The upper diagram shows changes in the number of sites occupied at each period, while the lower one represents the change in total hectares of settled area. EU, Early Uruk; E/MU, Early/Middle Uruk; MU, Middle Uruk; LU, Late Uruk; JN, Jemdet Nasr.

work on the fourth millennium, the aim of which is to make explicit the intellectual and pragmatic roots on which recent work is based. I then turn to a discussion of those current approaches which seem to me to contribute most to present problem-oriented and theoretically informed work on the fourth millennium in Mesopotamia. I make no pretensions to comprehensiveness in this discussion, in either the literature cited or the scholars whose work is discussed. In this regard, it should be noted at the outset that despite the tenor of this article, which emphasizes interpretative and theoretically based research, the

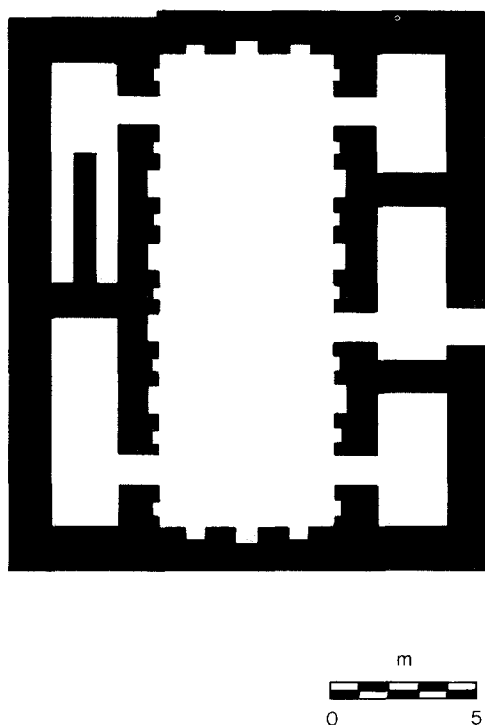


Fig. 3. Example of an Uruk period “temple” (*temple nord*) from Tell Kannas showing the elaborated, niched architecture characteristic of nondomestic buildings. (Adapted from Finet, 1979, p. 89.)

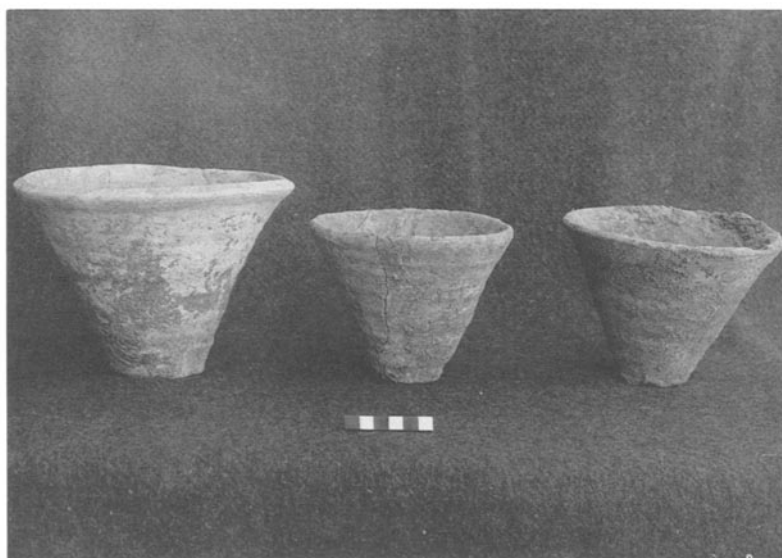
bulk of the work conducted on these (and other) periods in Mesopotamia remains starkly atheoretical, concerned primarily with the documentation of art and architectural history and the spatial and temporal definitions of “culture areas” [evident, for example, in the controversy over whether the Jemdet Nasr period “exists” and, if so, what it is (cf. Finkbeiner and Röllig, 1986)]. In the final section of the paper, I offer some general critiques of the state of the art and some thoughts on alternative research directions.

### THE MODERN SETTING

Two of the principal countries in which the remains of ancient Mesopotamian civilizations are found are currently inaccessible to western archaeologists. These are Iran and Iraq. Revolution and international war, respectively, forced the unexpected interruption of many ongoing archaeological projects, including one that I was conducting.



**Fig. 4.** Examples of Uruk beveled-rim bowls from the Uruk Mound, Abu Salabikh. The scale is 6 cm long.



**Fig. 5.** Examples of Jemdet Nasr coarse conical bowls from the Uruk Mound, Abu Salabikh. The scale is 6 cm long.

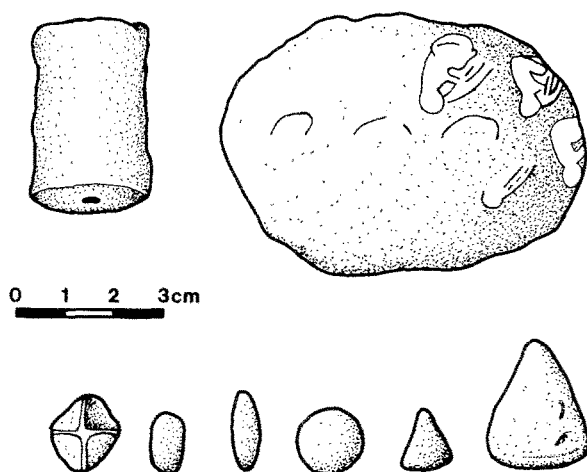


Fig. 6. Examples of a cylinder seal, bulla, and counters. [Seal schematic; bulla and counters adapted from Le Brun and Vallat (1978, Fig. 3) and author's original].

The realities of the modern Middle East have encouraged a good deal of avoidance behavior on the part of archaeologists, who have tended to try to remain removed from the messiness of world politics at all costs. This stance is usually defended on the grounds that archaeological work is unrelated to politics; pragmatically, maintaining political neutrality is considered necessary to the continuation of work in one's country of choice. Whatever the morality of such a stance in "normal" times, the tragedy of the recent Gulf war should make it clear that that position is now indefensible, however well intentioned.

In an editorial in *Smithsonian* magazine (December 1990), Robert McC. Adams offers some thoughts on Iraq and Mesopotamia in light of then-current political events in the region. His observations capture an essential part of the experience of archaeological fieldwork: that it is an activity involving its practitioners in relationships that cross-cut past and present. This is not just a statement of the impossibility of removing ourselves entirely from our own social, cultural, and historical context. Rather it is a recognition that fieldwork involves not just the remains of the past, from which we endeavor to learn something about the people who created them, but also close working relationships with the very much living people in whose villages, towns, and homes we reside for a short time and into whose lives we inject our unsolicited and often very alien presence and life-styles. That we are so often tolerated is surprising enough; that we are so often welcomed with warm and genuine hospitality, our social and cultural *faux pas* tolerated with good humor, is testimony to the possibilities



**Fig. 7.** An archaic tablet that deals with allotments of beer (see also Fig. 10). The tablet measures 10.7 cm in height and 9.8 cm in width. (Courtesy of Christie's, London.)

of interpersonal and intercultural understandings that far surpass the capabilities of any purely academic discourse to describe or explain.

If nothing else, simple humanity should dictate that we think of the lives of these acquaintances and co-workers when we write of archaeology, not just of the long-dead civilizations we study and our largely abstract ideas about them. For those of us who have experienced life in the modern Middle East first hand, even as we make a living by studying the region's past, it should be unacceptable to remain silent while so many in the Western world act out of ignorance and disrespect of these cultures and peoples.

### THE ANCIENT SETTING

The Mesopotamian lowlands are dominated by the two large rivers, the Euphrates and the Tigris, for which the region was named. Due to the severe climate, characterized by long, hot summers without any rain and low and



extremely variable winter precipitation, agriculture is practical only when irrigation is used, relying on the rivers as water sources. The nature of environmental changes in the last 6000 years is far from fully understood, but there is no evidence to suggest that these basic features were significantly different then than now. Although characterized by relatively fertile land and ample pasturage for flocks of sheep and goats, the alluvial lowlands are almost completely lacking in raw materials such as stone, metal, and high-quality wood. Many of these resources were procured from the surrounding highland regions, which were endowed with both raw materials and a more congenial climate in which rainfall farming was possible.

As in much of the Near East, most sites in Mesopotamia consist of mounds, or tells, which range from those that are low and spreading so that they are discernible only to the well-trained eye to those that are tens of meters high and clearly visible in the flat landscape. Regardless of their form, they all represent the continuous or repeated occupation of the same site for centuries or even millennia, with the accumulation of occupational and especially architectural—typically mudbrick—debris. Coupled with the fact that sites tend to be large—by the end of the fourth millennium, a number of sites in Mesopotamia exceed 25 ha, with the largest estimated at 100 ha—archaeologists are usually able to investigate only a small proportion of a site, especially when the occupation levels of interest are buried under meters of later deposits. Indeed, the vast majority of large-scale investigations of Uruk and Jemdet Nasr settlements were undertaken decades ago, when archaeological standards were much less rigorous than today.

The surfaces of mounds are typically littered with artifacts, forming a carpet so dense that it is impossible not to step on them when walking across a site. Pot sherds comprise by far the most numerous finds, accompanied by varying quantities of other artifacts made of stone, baked clay, and metal. On fourth millennium sites, the latter frequently include ceramic wasters, chipped and ground stone tools and manufacturing debris, fragments of stone vessels, bits of metal, and an array of durable ceramic items such as clay sickles and wall cones.

The chronology of the pre- and protohistoric periods—that is, prior to the early third millennium B.C.—is based on radiocarbon dates. The relatively small number of carbon-14 dates for the fifth and fourth millennia, the problems of calibrating dates in some time ranges due to fluctuations in the calibration curves, and the chronic problem of contamination of samples with bitumen (a natural petroleum product, small fragments of which are easily mistaken for charcoal) all contribute to the imprecision of the chronology. However, on the basis of the available dates, the Uruk and Jemdet Nasr periods seem to last approximately 1000 years, spanning more or less the fourth millennium B.C. (Fig. 1). For ease of reference, I use the term “fourth millennium” to refer to these two periods together.

## HISTORICAL BACKGROUND

Archaeological work of some description has been taking place in Mesopotamia for nearly a century and a half. Despite this long history of fieldwork, the explicit attention devoted to the fourth millennium as a time of significant achievements in its own right is primarily a recent phenomenon. The earliest excavators were a motley crew of explorers, diplomats, and engineers whose enterprises were often guided by a combination of romanticism, biblical interests, and a desire to find "works of art" worthy of shipping to museums in their home countries in Europe or America [for a detailed account of early work in Mesopotamia, see Lloyd (1947) and, recently, Baud, (1991)]. Sites were chosen for excavation simply because they were there, for their presumed biblical associations, and because they were thought likely to yield impressive remains.

In comparison with the monumental finds unearthed at Assyrian cities in northern Mesopotamia, southern Mesopotamian sites, with their predominantly mudbrick architecture and paucity of large stone sculpture, were less enticing to early excavators. The results of the first attempts to excavate them were disappointing. It was only in the last quarter of the 19th century that sustained excavations were begun on southern sites. It was soon evident that they contained artifacts in a style different from any previously encountered as well as inscribed materials (mostly clay tablets, but also bricks and seals). The writing was in a by-then familiar cuneiform script but in a language that bore no resemblance to the recently deciphered Akkadian (a Semitic language also written in cuneiform). Indeed, Sumerian could (and can) not be related to any other known language.

This strange new civilization, named Sumerian, quickly captured the imagination and interests of archaeologists and philologists working in the region. These investigators became preoccupied with finding out where Sumerian civilization and the Sumerian people came from. A fundamental premise was that both language and distinct styles of art and artifacts were synonymous with distinct groups of people (see, e.g., Frankfort, 1932). Thus, the task of searching for the roots of Sumerian culture became one of examining sequences of artifacts in order to find a stylistic break that could be identified with the coming of the Sumerians. This concern and the accompanying set of assumptions continued to pervade Mesopotamian studies for many decades (Frankfort, 1954; Falkenstein, 1965; Mallowan, 1965; Roux, 1966; Moortgat, 1967; Jones, 1969; Hrouda, 1971).

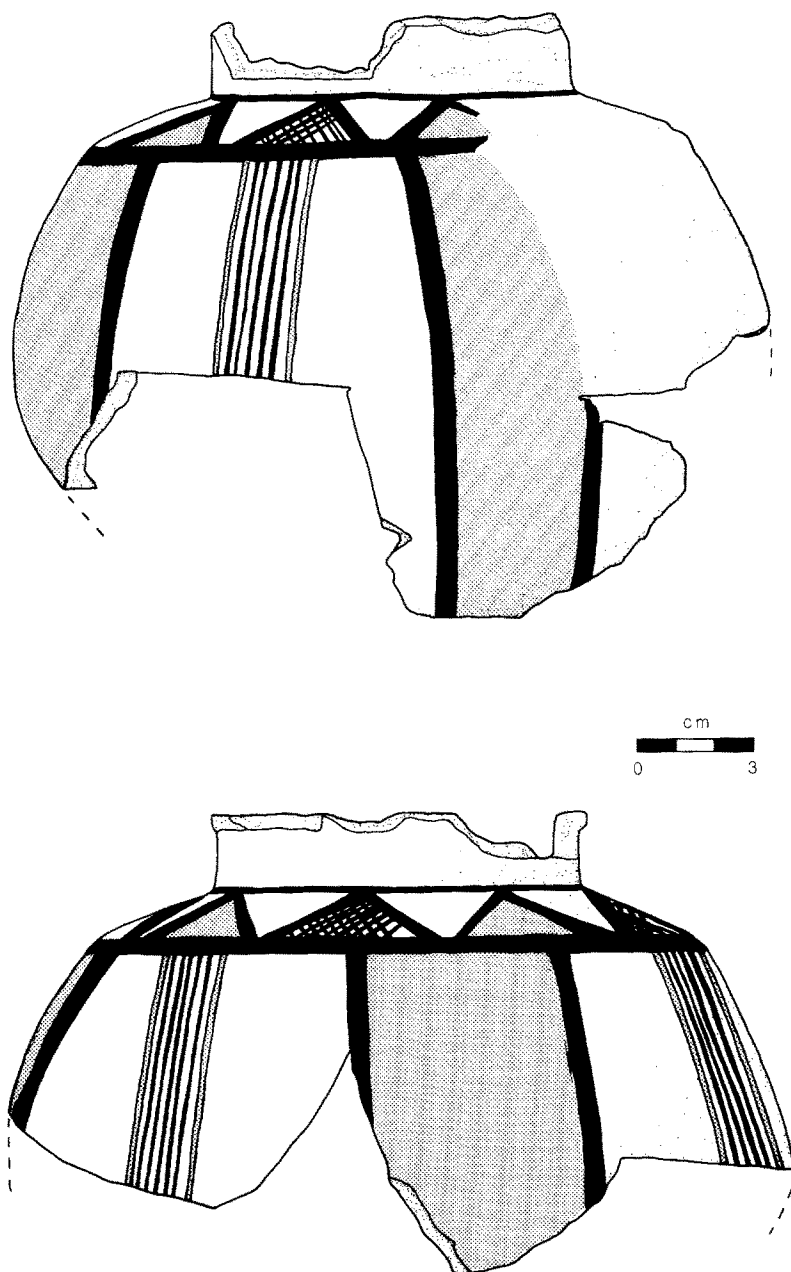
With the professionalization of the archaeological discipline as a whole as well as the sheer quantities of dirt moved and artifacts and architecture recovered, the desirability and indeed necessity of constructing a comparative culture history of southern Mesopotamia and neighboring Iran became ever more urgent.

To obtain the necessary artifact sequences, a popular procedure was to dig “deep soundings,” often of huge dimensions, to reach sterile soil. As an outcome of these efforts, three pan-southern Mesopotamian chronological periods—Ubaid, Uruk, and Jemdet Nasr—were defined in 1930, primarily on the basis of changes in pottery and “works of art” such as seals. Particular sites where one of these occupations was well represented and easily accessible often became the focus of extensive excavations, most notably at Warka, the site for which the Uruk period is named. (For the sake of clarity, I use the term “Uruk” to refer to the chronological period and “Warka” to refer to the site.) There, beginning in the late 1920s, German archaeologists uncovered large areas of fourth millennium “public” architecture in a central area of the site (reports in *UVB* series). Among the artifacts recovered in these excavations were a large quantity of clay tablets with what was clearly a very “archaic” style of writing (Falkenstein, 1936). Similarly, the Jemdet Nasr period is named for the site of the same name where a joint British–American expedition cleared a large architectural complex containing a characteristic style of polychrome painted pottery (Fig. 8) and archaic tablets (Langdon, 1928; Mackay, 1931).

In neighboring southwestern Iran, the attention of the early investigators—beginning in the 1890s with French excavations at Susa—was directed toward the elaborate painted pottery traditions known as Susa I and II (Le Breton, 1957). Although Morgan noted that a “coarse unpainted ware” was present in the levels above Susa I and below Susa II painted wares, the inadequate manner of excavation and recording, as well as the excessive preoccupation with painted ceramics to the exclusion of the unattractive Uruk pottery, enabled the pottery analyst to declare that the two styles followed one another without a temporal break. It was only as more comparative material from Mesopotamia and elsewhere in Iran became available that others were able to dispute this claim and eventually to rescue the Uruk period occupation of Susa from a state of near total neglect (Le Breton, 1957).

In addition to artifact-based definition and the “Sumerian question,” two other features of the Uruk and Jemdet Nasr periods were the subject of particular concern. These were the development of writing and of cities. Almost without exception, archaeologists and philologists alike viewed the development of writing toward the end of the Uruk period as one of the most momentous of all Mesopotamian achievements (e.g., Childe, 1952; Frankfort, 1954; Falkenstein, 1965; Roux, 1966). It was thought to mark the beginning not just of history (Hallo and Simpson, 1971) but also of civilization (Childe, 1952). That the earliest uses of writing seem to have been almost completely concerned with bureaucracy and accountancy—not the recording of history or literature—was recognized quite early (Falkenstein, 1936), without detracting from assessments of its importance.

Fourth millennium cities were seen as the direct predecessors of Sumerian



**Fig. 8.** An example of a Jemdet Nasr jar with polychrome painted decoration. The stippled area represents red paint/wash; the black lines, black paint. This particular specimen was recovered from the Uruk Mound, Abu Salabikh.

“temple cities.” As part of a tradition of study based in art and architectural history, the development of “temple” architecture was traced from its roots in the fourth millennium, or even earlier, to its manifestations in the third millennium (e.g., Frankfort, 1954). The focus was first and foremost on the discrete entity of the city as the residence of deities, and only secondarily of *men* (certainly not of women!).

It should be noted in passing that the work of Childe (1951, 1952) represents a significant exception to the general trend of Mesopotamian studies prior to World War II. Unlike nearly all other synthesizers of Mesopotamian history or prehistory, Childe devoted considerable attention to the Uruk-Jemdet Nasr periods. This was not only because they were temporally antecedent to Sumerian civilization, which he, too, regarded as the zenith of early Mesopotamian developments, but also because he attributed to them various technological innovations and economic developments that he considered essential to the emergence of civilization. In this concern with economic organization, Childe’s work foreshadows some of what was to come in the 1960s and subsequently.

The years just before and after World War II mark a significant divide in the intellectual history of Mesopotamian archaeology. Changes in the antiquities laws in Iraq as well as other Middle Eastern countries, put into effect in the 1920s, substantially reduced opportunities for removing desirable antiquities to western museums (Lloyd, 1947; Falkenstein, 1965). This spelled the demise of expeditions whose primary aim was to recover treasures that could be donated to their sponsoring institutions at home. In addition, a number of expeditions were undertaken that were explicitly multidisciplinary and inspired by new kinds of questions, often anthropological and ecological in tenor. This represented a break with the previous tradition of archaeology in Mesopotamia that was dominated almost entirely by a practice with few, if any, ties to anthropology but with connections to art history, history, and philology. Although these expeditions were most notably concerned with earlier periods in prehistory, especially with the origins of food production and village life (Braidwood *et al.*, 1983), the focus on cultural ecology and settlement systems was also a source of inspiration to those working on later periods. Out of this work came some of the earliest examples of regional surveys, settlement pattern, and land use studies in Mesopotamia [(Adams, 1961, 1965; Jacobsen and Adams, 1958); for an earlier example, albeit with little explicit “problem orientation,” see Braidwood (1937)]. Such regionally focused investigations have continued up to the present, supplemented by surveys undertaken as parts of dam and other irrigation-related salvage projects [e.g., Hamrin and Saddam dams in Iraq (*Sumer* 35, 1979; State Organization of Antiquities and Heritage, 1987), Tabqa dam in Syria (Freedman, 1979), and Karababa and Keban dams in Turkey (Wilkinson, 1990; Whallon, 1979)].

Profoundly influenced by more general developments in the discipline of

archaeology since the late 1960s, especially in the United States, a number of archaeologists were responsible for a further reorientation of archaeological research in Mesopotamia—especially southwestern Iran—in the 1960s and 1970s. Many of these scholars adhered to an approach based on the perspective of cultural evolution and sought explanations for the evolution of states and urban societies. For those interested in origins of the state, the Uruk period came to be regarded as critical because it is deemed to be one of the relatively few-known examples in the world of primary state development (Wright and Johnson, 1975; Wright, 1977). For those more concerned with the process of urbanization, the roots of urban society are traced to the late fifth and fourth millennia (Adams, 1981; Redman, 1978). In a separate but not unrelated tradition of scholarship, the evolution of bureaucracy, as seen through the development of writing, sealing, and other accounting devices, has been a focal point of research on the rise of civilization and one that also leads to a direct concern with the fourth millennium (Nissen, 1988). Although coming from a number of different points of view, these changes in scholarly emphasis brought in their wake a vastly increased interest in the fourth millennium for its own sake and, to some degree at least, in its own terms.

Practical—field-based—work associated with these trends of the last couple decades has continued to emphasize regional survey and the associated analysis of settlement patterns (Adams and Nissen, 1972; Johnson, 1973, 1975, 1987; Adams, 1981; Wilkinson, 1990). In addition, the new research directions spawned an array of excavations at smaller sites, some of them “villages,” aimed at yielding systematically collected samples of artifacts in stratified sequences (e.g., Johnson, 1976; Wright *et al.*, 1980; Wright, 1981). These more rigorous techniques coupled with limitations of time and money tended to preclude the traditional emphasis on complete architectural exposures. Within the domain of salvage work, which has occupied the energies of a large number of Mesopotamian archaeologists in the last few decades, several projects have uncovered substantial exposures of fourth millennium architecture (e.g., Finet, 1979; van Driel, 1979; Strommenger, 1980) or, in some cases, individual buildings that have been subjected to detailed investigation (e.g., Killick, 1988). Recently, several projects have combined a number of different strategies in attempts to obtain some broad architectural exposures—using techniques such as surface scraping—as well as excavations of a few buildings and/or stratigraphic soundings (Matthews, 1989, 1990; Pollock, 1987, 1990a; Pollock *et al.*, 1991).

Having brought this historical review up to the present time, we are now in a position to consider the major interpretive approaches to the study of the Uruk and Jemdet Nasr periods that emerged in the last few decades and that continue to shape research on these periods.

## CULTURAL ECOLOGY: PEASANTS, PASTORALISTS, AND THE EMERGENCE OF URBAN SOCIETIES

In his extensive and wide-ranging scholarship, Robert McC. Adams has emphasized a cultural ecological approach as one important perspective from which to study Mesopotamian history (see especially Adams, 1974, 1981). Starting from natural environmental conditions in Mesopotamia, he proceeds to a consideration of how they have affected human life in the region, strategies societies have used throughout Mesopotamian history to adapt to their environment, and the selective pressures imposed by the environment that favor the evolution of urban societies.

The fundamental environmental constraint in southern Mesopotamia is water. Any kind of sustained agriculture is wholly dependent upon irrigation, due to the low average annual precipitation and its high degree of interannual variability. As a result, sedentary occupation in the southern alluvium is constrained to narrow bands along natural and human-made or modified channels of the Euphrates and Tigris rivers. This dependence on irrigation for the pursuit of agriculture has had a number of sociopolitical consequences.

First, there was rarely, if ever, a lack of land per se; rather, *irrigable* land has always been at a premium. Second, control of irrigation water by upstream dwellers has the potential of being translated into political power. People living in an upstream location are able to shut off supplies of water to downstream users, or they may neglect their share of canal maintenance duties necessary to ensure that adequate water reaches communities living downstream. Third, the river channels did not remain in the same place through the centuries, but migrated, ultimately in a westward direction. This means that as old channels dried up, some settlements had to be abandoned and new ones formed elsewhere. Particularly relevant to the fourth millennium, some time during Early Uruk the channels of the Tigris and Euphrates in the northern part of the alluvium temporarily united. The resultant drying up of an important channel may have been a cause of the extensive abandonment of sites in parts of that region.

In a related discussion, Nissen (1988) has cited changing climatic conditions in the early part of the fourth millennium as causing a decrease in the volume of water carried by the rivers, with the result that large sections of the alluvial plain that had previously been flooded became dry land. This he takes as an explanation for the greatly increased aggregate density of settlement beginning in the Uruk period. However, the basis for this environmental reconstruction appears to be far from certain—discussions of alluvial deposition in the Gulf in the fourth millennium make reference more or less exclusively to the southernmost part of the plain (south of Ur) and highlight the complex and regionally variable nature of the phenomena (Larsen, 1975; Larsen and Evans,

1978; Sanlaville, 1989). Although such environmental factors may contribute to the increase in settlement in the southern alluvium, it fails to account for the equally large increase in the northern alluvium earlier in the fourth millennium (see Adams, 1981).

Although the availability of irrigation water represents a critical variable in determining the location of permanent, agriculturally based settlements—and all permanent settlements in southern Mesopotamia are fundamentally dependent on agriculture—Adams has repeatedly stressed the importance of pastoralism as another component of the distinctive Mesopotamian ecological adaptation. He points out that in many ways pastoralism and agriculture represent complementary, not competitive, strategies in the face of the environmental realities of Mesopotamia. Vast areas of land that lie uncultivated because of lack of irrigation water nonetheless provide adequate pasture for flocks during much of the year. Animals may also be grazed on fallow land, which has the added benefit of contributing their manure as fertilizer. Herds themselves are a form of reserve food in the event of crop failure. In addition, they are a source of fibers for the manufacture of textiles, one of Mesopotamia's primary industries throughout much of its history. Finally, pastoralists may furnish a source of seasonal labor at times of high demand in the agricultural cycle, as well as exchanging specialized products for those produced by the sedentary part of the population.

The complementary and indeed interdependent nature of pastoralism and agriculture, and especially the possibilities of maintaining a fluid balance between them, offers, according to Adams, a much-needed source of adaptive flexibility in an often harsh and unpredictable environment. In other words, it is not merely the existence of two separate groups, one maintaining flocks and the other growing crops, that is to be expected, but rather these groups are to be conceived of as quite fluid in composition, their membership waxing and waning depending on political and environmental circumstances. In addition to the environmental argument already presented, Adams supports this claim with reference to political history, observing that in periods of strong, centralized political control members of nomadic groups tend to become sedentary (often under duress), but when central control breaks down a substantial component of the population tends to adopt a more nomadic way of life.

For Adams, not only do pastoralism and agriculture form a continuum along which people and segments of society can move, but also the urban societies of which they are a part constitute a form of ecological adaptation. Towns serve as nodal points for facilitating (and regulating) exchanges of specialized resources between adjacent regions and between pastoral and peasant groups. They also are places in which surplus goods can be stored against future shortages, and they can be (and by the early third millennium usually are) surrounded by walls that can serve defensive purposes. In an environment in which interannual fluctuations in harvests are great and the risks of a poor harvest high, Adams argues



that it is advantageous to have social institutions, such as those associated with urban society, that can act to pool both resources and risks (Adams, 1978).

On the basis of his extensive regional surveys (1965, 1981; Adams and Nissen, 1972), Adams identifies the fourth millennium as a key time in the emergence of Mesopotamian urban society. Emerging urban centers were critical to the performance of a range of political, religious, and economic functions that both bound the populace to them (for example, through the conduct of important religious ceremonies in towns) and ensured a relatively smooth running of the society as a whole. Within the "whole" of alluvial Mesopotamia, Adams distinguishes different regional patterns of settlement, population increase, and decline and what he perceives as contrasting patterns of urban life: in the more southerly region, a single large urban site (Warka) dominated a hinterland of small villages, whereas in the more northerly area a pattern of equivalent-sized competing centers existed. He envisions the principal bases of organization of the newly emergent urbanized society to be those of religious and cultic ties combined with political power that relied ultimately on the threat of military force. Although he disputes the notions of Wright and Johnson concerning the existence of a strongly centralized and closely controlled economy (see below), he does consider towns to have played an important role in organizing long-distance trade and the flow of goods and services between town and rural dwellers.

In an example of some of the most intelligent uses of cultural ecology, Adams emphasizes the constraints and limits imposed by the natural environment, without becoming mired in environmental determinism. He emphasizes that adaptive strategies had to be flexible and that a dynamic balance existed between segments of an urban society. His insistence on the critical importance of understanding agricultural and pastoral production as the fundamental basis on which Mesopotamian urban societies rested provides an important counterpoint to many other works concerned primarily with the more glamorous *objets d'art* and architecture produced by ancient Mesopotamians.

However, Adams' ecological arguments can be criticized for a preoccupation with "the grand sweep of history" at the expense of attention to the peculiarities and uniqueness of specific historical periods. This is not to say that he does not give any consideration to historical change or specifics but, rather, that in his concern to demonstrate the patterns and cyclical nature of Mesopotamian history, the stuff that makes different periods unique is all too easily lost from view. As he himself remarks, his work depends upon the assumption that similar environmental conditions and constraints have existed in Mesopotamia for at least 6000 years and that, in a general way, humans have responded to them in similar ways over the course of this time. Although fundamentally much, if not all, archaeology depends on similar assumptions—and moreover, Adams does not commit the error of taking *similar* to mean *the same*—such an approach,

concerned as it is with broad, general(izable) patterns applicable to widely disparate periods of time, cannot do adequate justice to the details of variability between different periods.

Ecological approaches in general express an overriding concern for the adaptive features of societies. This leaves little room for conscious manipulation and advantage-seeking behavior on the part of humans, since it is implicitly assumed that what contributes to the smooth operation of the system will inevitably prevail. Adams tempers this tendency by introducing elements of political machinations and self-seeking behavior into his accounts. However, because of the scale of his enquiry as well as cultural ecology's inherent adaptationist tenets, his picture of fourth millennium society tends to emphasize broad regularities and the ultimately successful operation of a system over the elements of conflict and local-level variation.

### LOCAL EXCHANGE AND THE GROWTH OF ADMINISTERED ECONOMIES

Studies of local exchange and administration are closely associated with the work of Henry T. Wright and Gregory Johnson (Johnson, 1973, 1975, 1987; Wright and Johnson, 1975; Wright, 1977, 1978, 1986). Both of these scholars identify their fundamental interest as being the explanation of the origin of the state. Based primarily on research conducted in southwestern Iran, they propose that the first states emerged in Early Uruk.

According to their definition, the state is characterized by its administrative system, which is both internally and externally specialized and hierarchical in structure. The state acts as a manager, and it and its newly structured administrative system are hypothesized to have arisen in a situation in which unprecedented demands for goods, services, and ultimately information processing and decision making exceed the handling capabilities of more simply structured political systems. Following from these premises, three sets of questions are posed: (1) How were Uruk administrative systems structured? (2) What did these administrative systems control, and how? and (3) What kinds of unprecedented demands arose that brought about the transformation of the previously existing political system?

Studies of the administrative system are based, in the first instance, on investigations of the function and distribution of administrative artifacts, including seals, sealings, counters, bullae, and clay tablets, the latter containing numerical and/or written notations. All of these artifacts were used to document and ultimately control the movement of goods and services. Seals were stamped or rolled onto the wet clay of door sealings, jar stoppers, and various types of containers, leaving the impression of the design carved in them (Fig. 9). The act of sealing represented the authorization of a transaction, be it the locking of



**Fig. 9.** The impression of a cylinder seal, on a container sealing. Note the small figure with hands behind the back, interpreted as a bound prisoner. The maximum height of the sealing is 9 cm, and the maximum width is 8 cm. (Courtesy of the Vorderasiatische Museum, Staatliche Museen zu Berlin.)

a storeroom door or the closure of a container, by an official who had the right to bear and use a seal. Unlike sealings which were used to secure the contents of some receptacle, clay bullae—“envelopes” containing counters within them and seal impressions on their exterior and functioning as shipping inventories (Fig. 6)—and clay tablets were solely information-bearing devices. Bullae and tablets need not have been directly connected to the goods or people whose movements they documented. Instead they contained summary information and could serve as a means of cross-checking.

The patterns of distribution of seals, sealings, and bullae are used by Wright and Johnson to infer patterns of administrative control (see especially Wright and Johnson, 1975). Since tablets do not make an appearance until the end of the Uruk period and Wright and Johnson are particularly concerned with Early and Middle Uruk, tablets do not figure directly into their analyses. Finds of seals are taken to imply the presence of administrators with the authority to use them. Furthermore, seals occur in a range of sizes, with different types and complexities of carved motifs, variables which Wright and Johnson interpret as representations of different levels of authority. Finds of broken and discarded sealings imply the opening of sealed rooms or containers and the distribution of their contents. The presence of unfinished bullae indicate that goods were pre-

pared to be shipped elsewhere, while opened bullae indicate the receipt of goods and checking of their contents against a record. The differential distribution of these various administrative artifacts on different sites—at least by Middle Uruk times—and their associations with sites of different sizes are interpreted as a direct indication of a hierarchical administrative system.

The evidence of the administrative artifacts contributes to settlement pattern analyses, which aim to demonstrate the existence of a hierarchy of sites based on a combination of size and spatial dominance of smaller by larger settlements. Together, these sources of evidence are used to argue for a hierarchical administrative system of at least three tiers in which administration was involved in regulating the movement of goods from places where they were produced to assembly points and subsequently to central places from which they were then distributed.

What did this increasingly elaborate administrative system control, that is, what was being administered in Uruk times? In the most general sense, the answer is the production and exchange of goods and services. Thus, most analytical effort has been directed toward investigating the development of specialized institutions and mechanisms of control that structured economic organization [however, see Bernbeck (1991) and Yoffee (1992), who argue that economic organization actually receives little attention in this approach].

Administrative efforts are presumed to have been applied first and most strictly to those activities, goods, and services which were perceived by administrators to be most vital to the operation of the (political) system (Zeder, 1988). This assumption translates into an emphasis on mundane “utilitarian” goods and services. These include agricultural products, especially food but also fibers used in textile making; a variety of craft products and tools used in productive activities, such as pottery, sickles, and grinding stones; and labor required for such public works as maintenance of irrigation canals, harvesting, and construction of “public” buildings. In contrast, little explicit analytical attention is accorded to prestige goods, presumably because these were less in need of the administrative attentions of ancient political elites (cf. Johnson, 1988–1989).

Wright and Johnson propose that during the earlier part of the Uruk period, production of some craft goods, most notably ceramics, may have been reorganized such that their manufacture took place only in a few large workshops located at centers. Such a pattern is in direct contrast to the earlier (Ubaid) situation, in which pottery was manufactured in virtually every community. This transformation in the organization of craft production is presumed to be associated, at least in the first instance, with a desire to promote productive efficiency to meet increased and unpredictable demand.

If (at least some) products used in daily activities were made in only a few workshops in a few communities, this required provision for distributing the products to consumers. In a microstylistic study of ceramics, Johnson (1973)

claims to be able to distinguish the products of different pottery workshops and the distribution of their products throughout the Susiana Plain. On the basis of this evidence, he argues for the existence of a system of local exchange that was centrally administered.

This system of administered exchange encompassed not just the products of centralized production such as pottery, but also rural products, especially food and labor. A need for surplus food to support the growing segments of the population that did not produce their own led to increasing demands, first on food producers in the centers themselves and subsequently on the surrounding village populations. Agriculturalists were under pressure to produce a surplus which was yielded on demand to a central authority. Labor for public projects also came increasingly from rural populations. The growing need to ensure that rural dwellers delivered both the goods and the services required of them was a contributing factor in the growth of centrally directed administrative systems and influenced the relative location of centers and villages.

Indeed, Johnson persuasively claims that human labor must have been a fundamental resource in ancient complex societies (Johnson, 1988–1989). Normally considered a rather elusive phenomenon for the archaeologist, the topic of labor has received an unusual amount of attention in studies of ancient Mesopotamia both because of frequent reference in cuneiform and protocuneiform texts (Gelb, 1965; Nissen, 1974; Nissen *et al.*, 1990) and, especially, because of the interpretation of the peculiar and omnipresent Uruk “type fossil,” the beveled rim bowl. The use of these strange, coarsely made vessels, which often comprise 50% or more of the total pottery assemblage, remains much debated (see, e.g., Beale, 1978; Forest, 1987; Millard, 1988; Buccellati, 1990; Chazan and Lehner, 1990). However, Nissen’s (1970) argument that they were made in standardized sizes in order to be used as vessels for issuing rations, probably of grain or grain products, to workers laboring for “public” institutions is favored by Wright and Johnson, as well as most other proponents of the administrative model of Uruk developments. Recent suggestions that they were used as bread molds (Millard, 1988; Chazan and Lehner, 1990) do not contradict the notion of their use in distributing rations of some kind, in contrast to earlier suggestions of their use as votive containers, for example (Beale, 1978).

Based on this interpretation of the use of beveled rim bowls, it is argued that a centrally administered labor system is attested by the end of Early Uruk when these bowls made their first appearance. The relative densities of beveled rim bowls are used to assess spatial and temporal variability in the flow of labor. Johnson (1987) proposes that such an administered system of public labor might have permitted a form of census-taking of the distribution and availability of labor. Further, he suggests that in order to keep such a system functioning smoothly, it may sometimes have been necessary to “make work” to absorb temporary surpluses of labor. This may account for the monumentality of some

building projects, which symbolized elite status but also reached their scale as a convenient way of employing extra labor.

Finally, public labor demands are said to be implicated in the apparent collapse of the Uruk system on the Susiana Plain in the Late Uruk (Johnson, 1973, 1987). Johnson suggests that increasingly heavy demands for labor and, in particular, the possibility that some villages were subjected to overlapping demands by more than one center may have led to unrest on the part of the rural population, contributing to the collapse of the Uruk polities on the plain.

Turning to the third question raised earlier in this section, the immediate factors leading to the origins of the state—the necessity for a reorganized, more centrally and strictly controlled economy—have remained elusive. An earlier favored explanation, but one that now seems to have little support at least in southwestern Iran, is that seasonally high and/or fluctuating demands for various goods and services might have been occasioned by specialized nomadic groups (Wright and Johnson, 1975; Johnson, 1987; Wright, 1987). Unpredictable fluctuations in demand are argued to provide selective pressure for the emergence of centralized workshops (Wright and Johnson, 1975). Stated differently, external circumstances provided the impetus for elites to reorganize the system, to ensure that it function better.

Especially in their earlier writings, Wright and Johnson view efficiency as the driving force behind the reorganization of production and exchange and the location of settlements. In the case of production, efficiency is understood in terms of economies of scale; for exchange and settlement location it is related to costs of transport. In recent works, Johnson has tackled the question of whom efficiency would have served. Considering the appropriate viewpoint to be that of the political elite, he suggests that they may have encouraged large-scale, centralized production of craft goods in order to undercut local, village producers. This would have had the desired effect of forcing villagers to rely increasingly on products manufactured at centers, thereby curtailing the relative autonomy enjoyed by villages in earlier periods.

In sum, the approach developed by Wright and Johnson and pursued by many other scholars views the origin of the state in the Uruk period as entailing the creation of a highly structured, centrally administered economy. The administrative system was involved principally in regulating the distribution of goods and services within a region. Production processes were thereby affected. In earlier formulations, transformations in production were understood as resulting more or less inevitably as the benefits of economies of scale became apparent; in recent writings, more credit is given to the conscious, calculating strategies of politically ambitious elites.

The work of Wright and Johnson has generated much problem-focused and carefully conceived fieldwork and analytical research that have also influenced many colleagues and students. In part because of the detailed and extensive

nature of their arguments, a variety of critiques can also be leveled at this approach in general and its applications more specifically.

As has been observed by a number of scholars interested in the anthropological study of complex societies, the view of the state promulgated by Wright and Johnson is concerned almost exclusively with the function of the state as a managerial entity (Gailey, 1985; Brumfiel and Earle, 1987). The transformations that brought about the emergence of the state are seen as direct results of the need to ensure the smooth running of a system and hence can be categorized as system-benefiting. Although political elites can be seen as having gained from the changes, only peripheral attention is afforded to the notion that elites may have engineered some of the organizational changes for purposes of their own self-aggrandizement, acting more out of opportunism than out of concern for what would promote the well-being of an abstract system.

Although in principle both production and exchange are deemed critical, a close reading of the relevant literature reveals that most interpretive weight is given to exchange rather than production. Take, for example, Johnson's argument that the production of pottery in the Susiana Plain was centralized. This conclusion is based on the contention that most Uruk pottery manufacture, with the probable exception of beveled-rim bowls, was confined to a few centers and did not take place in the many small village communities (cf. Berman, 1986). Having established this pattern, little or no additional examination of the internal workings of the ceramic industry—such as the number of people employed, the division of labor involved, etc.—is conducted. Instead, further analysis is directed toward investigating the distribution of the products, in this case local exchange.

Not only is production a relatively neglected area of study, but consumption receives only a modicum of attention [for something of an exception, see Wright *et al.* (1980)]. The validity of an analysis that depends on the rationales of modern economics and does not consider the extent to which economic practices and political structures were embedded within each other can be criticized on theoretical grounds. In his recent writings, Johnson addresses some of these concerns, stressing control of labor and elite meddling in the organization of production as an explicit strategy used to control people. Still, he devotes relatively little attention to how the postulated reorganizations in production affected the daily activities, lives, and social relations of the producers or the responses of the latter segment of the population to new pressures and demands on them. Rather, the concern remains principally one of delineating the relationships between institutions and reified social entities.

The notion that a highly controlled and at least partially centralized economy developed during the Uruk period has also been disputed. Based on surface collections of artifacts from regional surveys in southern Mesopotamia, Adams (1981) questions the idea that various forms of craft production took place only in centralized workshops. Additionally, he notes that a surprising number of

finds of presumed status or wealth objects have been found on small village sites, both in Mesopotamia proper and in the Susiana Plain, finds which a model of centralized control by a political elite do not anticipate. Yoffee (1992) argues that the degree of centralized control of the economy postulated by the Wright and Johnson model is virtually unknown in any historically documented period in Mesopotamia and is therefore unlikely to have existed in the earliest attested examples of states.

One of the many important contributions made by Wright's and Johnson's approach has been to highlight the necessity of examining mundane aspects of life—the tools and waste products of manufacture, the production of food, that which made all of the rest possible. Along with this has come the recognition of the importance of excavating small, rural sites. Arguably, however, this emphasis has been taken too far, resulting in a relative inattention to sociopolitically and ideologically important prestige or elite goods. The production, distribution, and even consumption of such goods are treated more or less as footnotes to the studies of mundane items, although occasional references are made to their undoubted importance. However, prestige goods can be argued to be no less socially critical because they cannot be eaten or used to harvest a crop.

The geographic focus of analysis in the Wright-Johnson approach is, like Adams', on the level of the region. In contrast to Adams, nearly all of their work and conclusions are based on research conducted in southwestern Iran. Although the existence of close connections to southern Mesopotamia cannot be doubted, it is not necessarily the case that the transformations, events, and responses in the one region are wholly applicable to the other. In all fairness to the authors, no such claim is made. However, the assumption behind their approach is that the basic processes and patterns are applicable to other regions as well, even if the specific details and events were different.

## THE GROWTH OF BUREAUCRACY

The development of bureaucracy and an increasingly hierarchically organized economy, as indicated by changes in technology and the organization of production, are themes that figure prominently in the work of Nissen (1977, 1986, 1988; Nissen *et al.*, 1990). His research shares certain common concerns—the development of political organization, administrative structures, hierarchy, and control—with that of Wright and Johnson but derives from a quite different intellectual background whose roots lie in historical and linguistic traditions of Mesopotamian scholarship. Rather than emphasizing the origin of the state as the most significant transition, he is concerned with the more traditional problem of the development of Sumerian civilization and attendant urban society.



Nissen views the invention of writing toward the end of the fourth millennium as one in a rapid succession of technical developments in a burgeoning bureaucratic system. Although not unique in its function in its incipient stages, writing nonetheless offered greater flexibility and sophistication in comparison with other forms of recording technology. Through the medium of writing, as well as seals, bullae, and other accounting devices, an increasingly hierarchically and rigidly structured political system was able to keep track of and control its economy and population. In the sphere of writing, this is attested by the vast majority of "archaic texts" which are economic in nature, recording transactions such as the issuance of rations, receipt of goods, and division of fields (Fig. 10). The rapid development of new forms of accounting devices—from stamp seals to cylinder seals, from counters and bullae to tablets—represents innovations designed to cope with an increasingly hierarchical administrative system which required ever greater information-bearing capacities [but see Michalowski (1990) for the argument that writing is not necessarily the direct evolutionary successor of other information-bearing devices]. Thus, for example, in relation to stamp seals, cylinder seals allowed for a greater variation in the motifs carved in them and thereby increased the number of distinctly different designs, representing different seal-bearing individuals, that could be produced.

Nissen adduces similar conclusions from study of the technology of manufacture of certain craft goods and the implications of the observed technological changes for the organization of production of these goods. Examining pottery and seal manufacture with a view to reconstructing the steps involved in their production sequences, he suggests that, in comparison to earlier periods, later Uruk and Jemdet Nasr manufacturing processes were divided into more component parts, distinct tasks that could have been most efficiently performed by different people. This division of labor and attendant creation of a growing number of distinct occupations led not only to greater productivity but also to greater interdependence—and thereby possibilities for control—of tasks and of the people who performed them. Nissen finds similar support for the existence of a rigid, hierarchical division of duties and offices in the Late Uruk text version of the so-called Standard Professions List, which mentions different professions and titles in a clear hierarchical relationship to one another. Nissen uses these combined analytical insights to argue that the later fourth millennium witnessed increased productive efficiency. Implicit in his argument is the idea that these developments may have brought with them increased possibilities for the control of people through manipulation and control of production.

Another argument for the extent and highly structured nature of economic control in the later fourth millennium comes from the interpretation of beveled-rim bowls originally proposed by Nissen and subsequently adopted and elaborated by many others (Nissen, 1970; see also above, *Local Exchange and the Growth of Administered Economies*). Beveled-rim bowls are interpreted as con-

further entries about beer allotments  
for high-ranking officials and for festivals

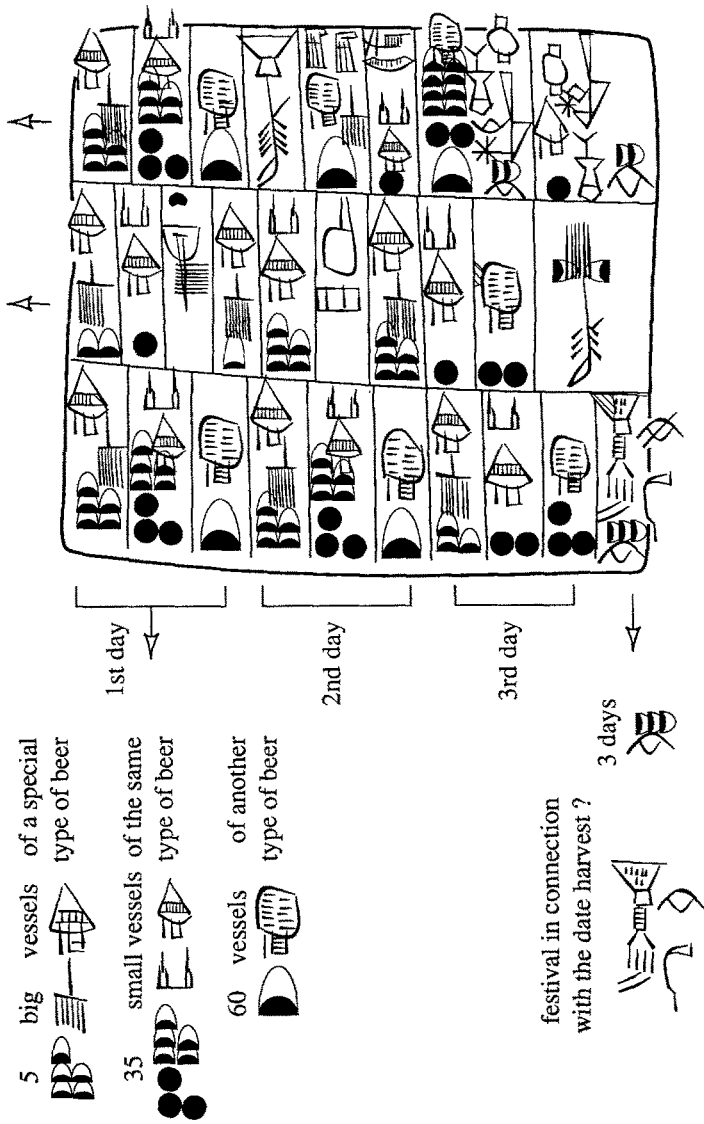


Fig. 10. A copy of the tablet illustrated in Fig. 7, with a partial translation. (Courtesy of Robert Englund and Peter Damerow.)

tainers mass-produced in standardized sizes for the distribution of rations to laborers working for public institutions. The introduction of standardized units of measurement is thought to represent another form of economic control and an indication of the rigid structuring of economic units.

Production processes of various sorts and certain technical aspects of the bureaucracy seem to have been streamlined and simplified in the Jemdet Nasr period, in a trend that continued into the third millennium. Evidence for this assertion comes from the adoption of a variety of mechanical tools for the manufacture of cylinder seals; the use of the pottery-manufacturing technique known as throwing from the hump; and the simplification of writing through changes in the techniques used (from incision to impression), the elimination of some signs in their entirety and superfluous details of others. These changes are interpreted by Nissen as indicating an increasingly specialized division of labor, which would have increased the possibilities of control of basic economic processes. The greater division of activities into smaller and more specific component parts would also enable a greater use of unskilled or low-skilled labor in these activities, alongside specially trained personnel.

Nissen also uses settlement pattern data to support his model of a hierarchically organized system by late in the fourth millennium. Overall, he observes an increased density of sites and the emergence of site hierarchies, reaching a four-tiered system in Late Uruk. He credits environmental changes that resulted in the draining of large areas of land previously under swamps or subject to frequent flooding with the primary responsibility for the dramatic settlement growth in the southernmost alluvium.

Although sharing with Wright and Johnson the themes of political administration of the economy, Nissen's approach differs from theirs in numerous ways. Analytically, he devotes much attention to the study of production processes. In contrast, he expresses little explicit concern with the issue of exchange. This emphasis may be partly a function of a perspective that focuses on the city as an entity that contrasts with rural communities, rather than on regional or interregional interactions. Further, unlike the other approaches considered, Nissen's owes little to the American tradition of anthropological archaeology. This frees his work to some degree from the abstract and highly generalizing legacy of processual archaeology but also contributes to a lack of explicitly articulated theoretical or problem focus in his work.

Despite these differences, Nissen's interpretations are in many ways compatible with the understanding of Uruk economy and political organization described by Wright and Johnson, although his concern is primarily with the later rather than the earlier fourth millennium. He, too, offers valuable insights into the structure of fourth millennium administrative systems and the direct imposition of administrative control on aspects of the economy. His interpretations, informed by the rich detail afforded by the study of the ancient written

records, portray a somewhat more complex picture of Late Uruk and Jemdet Nasr administrative practices than the simpler, ideal-type characterization of Wright and Johnson. In common with the latter researchers, Nissen, too, gives little thought to the implications of such restructuring on the lives of the producers themselves or the responses and strategies that producers may have made to the initiatives of political leaders.

### LONG-DISTANCE, "INTERCULTURAL" EXCHANGE AND THE LATE URUK EXPANSION

Both in contrast and in connection to the preoccupation with local exchange seen in the approach taken by Wright and Johnson in much of their work, another perspective highlights the critical importance of long-distance or intercultural exchange, in other words, exchange that occurs between rather than within regions. The importance accorded to interregional exchange by some scholars is founded on a basic fact of life in Mesopotamia: that the distribution of resources in the Near East is starkly uneven. Lowland alluvial Mesopotamia is more or less completely lacking in materials such as stone, metal, and good-quality wood, all of which are available in the surrounding highland regions of Anatolia and Iran.

The presumed necessity of importing certain raw materials and the desirability of controlling the networks by which such materials were procured are themes that run through discussions of much of Mesopotamian history. A number of proponents of the view that interregional exchange was one of the primary structuring features of Mesopotamian civilization argue that such exchange first takes on extraordinary importance in the latter part of the fourth millennium. Implicated in this view is the phenomenon known as the "Late Uruk expansion" in which settlements containing lowland Uruk-style artifacts and architecture are found as far afield as southeastern Anatolia, the northern Mesopotamian plains, and the Zagros mountain valleys of Iran, in areas where previous centuries were characterized by various indigenous cultural traditions (Algaze, 1989). Discussions of this expansion tend to be formulated around the topics of empire building, colonization, and the growth of civilization. In turn, in order to understand the episodes of geographical expansion, empires, and the rise of Sumerian civilization, interregional exchange is appealed to as a, if not *the*, critical variable.

With specific reference to the fourth millennium, Algaze's (1989) work provides the most explicit and detailed example of this approach. A related but less elaborated discussion can be found in the work of Weiss and Young (1975), while Kohl (1978, 1987a,b) and Zagarell (1986) deal with similar issues but with a principal focus on the third millennium.

Algaze's argument runs, in brief, as follows. He begins his discussion with

the Late Uruk, a period of time in which, according to his understanding, highly stratified societies already existed in lowland Mesopotamia. These societies required various raw materials that were not locally available, including "essentials" as well as "exotic" (luxury) items, to support their continuing existence. This need could be met only through interregional and, in this case, intercultural exchange. The process of acquiring needed materials from the surrounding, resource-rich highlands entailed building and maintaining economic, and occasionally political, relations with the polities in those areas.

The highland societies which acted as providers of needed and desired resources existed at a different (lower) level of sociopolitical integration from the more complex polities of lowland Mesopotamia. It follows from this that the relations between lowland and highland societies were asymmetrical and resulted in the further strengthening of the economic, social, and political bases of the core lowland societies. In contrast, after an initial period of growth in the peripheries, occurring in response to the demand for materials that they could provide to a lowland market, a weakening of the socioeconomic system followed. This resulted from the essentially exploitative nature of the relationships which were arranged by the lowland polities in a fashion most beneficial to their interests. In short, Algaze suggests that the creation and maintenance of exchange relations would have resulted in changes in both core and peripheral societies. However, in the core all of the changes in the economic, social, and political system would have been positive, whereas in the peripheral societies at least some would have had negative side effects.

Algaze's discussion of the relationship between lowland and highland societies borrows both terminology and concepts from Wallerstein's models of world systems theory and the sociology of asymmetrical development. Kohl (1987a,b) has devoted considerable attention to the question of whether or to what extent Wallerstein's concepts are applicable to the ancient, precapitalist world. Considering the Near East from the late fourth through the early second millennium, he concludes that many of the basic concepts of a Wallersteinian approach can be valuably applied to the study of the ancient world. These include notions of cores and peripheries; a "global" perspective which takes account of an entire interacting, often geographically extensive "world" rather than examining individual regions separately; an emphasis on a long historical perspective including, in the case of Mesopotamian history, cycles of imperial expansion alternating with periods of imperial collapse; and an acceptance of intercultural exchange as a feature of essential importance. Although he finds these aspects of a world systems perspective useful, Kohl also cautions against an uncritical, wholesale adoption of such an approach, pointing out important differences between the ancient Near East and the modern world system. Specifically, the ancient Near East must, in Kohl's view, be regarded as a multicentered system, with more than one core, and one which is best understood as comprising *interdependent*

cores and peripheries. This last point is in contrast to the modern world system in which the relationship of peripheries to cores is best described as a more fully dependent one, with core societies retaining tighter control over the less developed peripheries.

Returning to Algaze's argument, let us consider his specific application to the Late Uruk period. Reviewing sites that have direct material culture connections to the Uruk of southern Mesopotamia but are located in peripheral regions—including, for him, the Susiana Plain in southwestern Iran, the northern Mesopotamian plains, and southeastern Anatolia—he views the late fourth millennium as a time of an “expansion of impressive proportions, one that took a variety of forms and affected a number of areas differently” (Algaze, 1989, p. 574). Although the form of these southern Mesopotamian “colonial” enterprises differed, all were in some way involved in tapping into existing networks of exchange and directing as much of the fruits of this trade as possible into the coffers of lowland polities. Algaze bases this assertion on the locations of Uruk-related settlements in the peripheries, which he claims are uniformly positioned so as to control routes of exchange effectively but are *not* in locations that would be particularly favorable for controlling large territories or exploiting local agricultural possibilities [a statement that is, however, called into question by Wattenmaker (1990)].

The notion of Uruk colonies, sent out from lowland Mesopotamia to locate themselves on critical junctures along trade routes, was previously suggested as an explanation for the so-called Period V settlement at the site of Godin in the Iranian Zagros (Weiss and Young, 1975). More specifically, Weiss and Young identify the presence of southern Mesopotamian-related artifacts in a community of otherwise indigenous material culture as a merchant colony sent out by the Uruk center of Susa. They point out that Godin sits on a historically known trade route, the Khorasan Road, which runs from Iran into Mesopotamia and, from this, deduce that merchants took up residence in Godin in order to take advantage of trade moving along this route. What kinds of materials were being traded during the Late Uruk period is not clear, since little or no exotic (i.e., nonlocal and non-Uruk) material was found in the excavations. Indeed, in none of the Uruk settlements in the peripheries has any quantity of exotic materials been found that can be identified as the object of long-distance trading efforts.

The proponents of this approach—or, perhaps better, set of related approaches—must be commended for seeking to come to grips with the challenge of understanding the ancient world as a whole, rather than isolating small and manageable portions of it for analytical purposes. Reminiscent of Adams' work, these scholars all approach the study of the ancient Near East with a commitment to consider the long sweep of Mesopotamian history and to explore and define cycles of growth and collapse, some of which are highly general in character and others of which are distinctly Mesopotamian. Admirable as this emphasis

on the broad scale is, and productive of new and valuable insights, this perspective suffers from a tendency to gloss over specific problems and differences in an attempt to treat and make sense of "the big picture."

Not the least of these problems is that of the goods which formed the subject of the much-vaunted intercultural trade network. In a model which places interregional exchange at or near the center of analytical and explanatory importance, it is remarkable that so little concern has been raised about the near-total lack of archaeological candidates for the valuable traded materials. The two most popular ways of explaining away this problem—that many of the goods were perishable and/or that because they were objects of trade they would not remain in the trading outposts but are to be sought in the southern Mesopotamian sites that were the end points of trade—are unsatisfactory. If the "necessities" of life in the alluvium included such nonperishable materials as stone and metal, it is to be expected that these items would constitute some of the traded materials, and these should be archaeologically recoverable. Although most traded items would presumably have found their way to their destinations in the cities of southern Mesopotamia, it is difficult to conceive of a situation in which the traders or colonists would not have taken advantage of the opportunities to exploit the situation for as much as they could get away with—and that surely should include a few fine exotic items if these were indeed moving through their hands. Finally, even in southern Mesopotamian Uruk sites, the quantity of exotic materials that have been found is pitifully small. In this regard, however, it must be reiterated that only a handful of burials have been found that date to the Uruk period. Since burials are one of the more common places in which exotic and valued artifacts are found archaeologically, this may be a contributing factor in the apparent lack of exotic trade items in Uruk sites.

Also very much debatable is the definition of what constitutes a colonial or other direct southern Mesopotamian presence in the peripheries, as opposed to what might be equally plausibly interpreted as a local adoption of exotic styles for purposes such as prestige competition (Kohl, 1989; Wattenmaker, 1990). Although Algaze has distinguished several different types of Uruk intrusive settlements, the lack of a clear theoretical basis for interpreting material objects and their use prevents his argument from being fully convincing.

In a recent reconsideration of the Late Uruk, Johnson (1988–1989) proposes that it is not to be understood as a period of expansion but rather as one of collapse. He argues that the far-flung Uruk-related sites may represent the settlements of refugees—both elites and commoners—from a collapsing sociopolitical system rather than prosperous trading colonies sent out to control the frontiers. Although Johnson's proposal can be challenged on a number of points, his argument highlights some of the weak and taken-for-granted assumptions that are embodied in the traditional understanding of the Late Uruk as a flourishing and prosperous time. It also has the advantage of offering a more convincing rationale for why so few exotic goods are found in these sites.

Johnson's proposed scenario also indirectly raises another point that is not satisfactorily dealt with in either his or Algaze's work. When a time period is described as either flourishing and prosperous or declining and unprosperous, it should immediately bring to mind the question, (un)prosperous for whom? Although Algaze, following his world systems-inspired perspective, makes the important observation that core and peripheral societies would be differently affected by their interactions and the benefits would accrue primarily to the core societies, his assertion that the core polities would experience only positive repercussions is unjustifiable. As Zagarell (1986) argues, it is essential to consider the different spheres of power and influence within a society. Some groups within Late Uruk society undoubtedly benefited greatly from the changes that were taking place. However, at the same time it is unthinkable that all members of society, even in the lowland polities, experienced these changes as something positive. Both Johnson's conclusions based on calculations of agricultural sustaining areas and labor needs and demands and insights based on the study of Late Uruk bureaucracy (see above, *The Growth of Bureaucracy*) suggest that some social groups were subjected to severe exploitation at the hands of an increasingly powerful and greedy elite. These people surely did not experience the changes taking place in their world as something positive.

As a number of scholars have commented (Stein, 1990; Johnson, 1988–1989), the emphasis on interregional exchange and interactions has tended to obscure the importance of internal, local processes in explaining Late Uruk developments in particular and cyclical developments in Mesopotamia more generally. Debating the primacy of the one set of factors or the other may well be a misplaced effort, an example of the chicken or the egg argument.

## GENERAL CRITIQUES AND ALTERNATIVE DIRECTIONS

The various positions and approaches discussed in this paper have served to define the currently established status of problem-oriented research on fourth millennium Mesopotamia. This research and the debates surrounding it have contributed significantly to the development of our understanding of the antecedents of Mesopotamian civilizations. Further, they are important demonstrations of the value of situating research within specifically formulated, problem-oriented frameworks, in a field that is otherwise dominated largely by thoroughly empirical and often vaguely conceived research endeavors.

The prominent current approaches also exhibit some common weaknesses. All are characterized by an emphasis on “global” (at the regional or interregional scale), often highly generalized and abstract processes. Such a scope of enquiry may be appropriate and even necessary at an early stage of research and problem definition. However, I would contend that such a stance is fast reaching the limits of its utility as a primary guide for research. Global, highly general-



izing approaches must be balanced by detailed, specific investigations, set within clearly articulated problem frameworks.

More specifically, what is missing to a greater or lesser degree in all of the treatments that have been discussed is the recognition of how the broadly conceived social and cultural processes impacted on, were responded to by, and were reshaped at the "local" level. Little concern has been given to how people's lives were affected by increasing bureaucratization, the restructuring of production and exchange, or the emergence of urbanized societies. In addition, as a number of critiques have already indicated (e.g., Adams, 1981), along with a high level of generality and abstraction has come a tendency toward constructing ideal types and simplified schemes that do not do justice to the archaeological data, not to mention the people and societies under study. What have resulted are in many respects rather impoverished accounts of life and times in the fourth millennium.

Furthermore, these approaches tend to give inadequate recognition to people as conscious, motivated actors. People are tacitly treated as passive, predictable respondents to external stimuli: processes occur, the natural environment restricts, populations adapt, and so forth. To return to the remark with which I opened this paper, fourth millennium *societies* have been credited with impressive achievements, but the *people* who constitute these societies have not.

Finally, most researchers have adopted a "top-down" point of view, regarding Uruk and Jemdet Nasr societies from the perspective of a manager. This has the dubious result of making the archaeologist into something of an (unwitting?) apologist for the social system under study, with all its attendant features of inequality and exploitation, while at the same time serving to understate precisely these aspects of the societies. Thus, with a few recent exceptions (especially Zagarell, 1986; Johnson, 1987, 1988–1989), reading these accounts leaves one with the impression that life in the fourth millennium was rather pleasant and unproblematic for most people most of the time. Inequalities, exploitation, and general repression are played down, in favor of an emphasis on how aspects of bureaucracy and control function to keep society (the system) operating.

Some of these criticisms hark back in disquieting ways to my earlier remarks about the connections that our archaeological practice has—like it or not—with the world in which we live. Treating ancient societies as more or less homogeneous wholes, in which the most important concern is the smooth and efficient operation of the system; where the goals and schemes of management fascinate us far more than those of the producers; where conflict is something that occurs among competing elites or, occasionally, when commoners almost unthinkingly bring about a "system collapse"—all of these have implications for the ways in which we relate to the world around us. In this view, other countries and peoples are homogeneous entities whose concerns and beliefs are reflected by

their governments, while ordinary people are invisible. Without thinking closely about the connections among our scholarship, the pursuit of our professional interests, and our place in the modern world, without thinking about *real, live* people like those with whom we interact on our excavations, we, too, make our contribution to human exploitation and suffering in ways we may not wish to admit.

Although this is not the place to develop a detailed set of proposals for reorienting investigations of the fourth millennium, I take this opportunity to offer some brief suggestions of directions in which further work might proceed. Key to enriching our understanding of this period, making our appreciation of the past more "human," and allowing for a more sophisticated view of human interactions is to direct research questions to a local level of enquiry. This is not to be understood as advocating site-specific analysis in isolation but, rather, the examination of local activities against the backdrop of a broader context. Analyses must also highlight internal conflicts generated from acts of daily social life, as well as those deriving from major sociocultural transformations, and the strategies people use to cope with and attempt to better their lives. Such a perspective shares much with the notion of political economy as recently described by Roseberry (1988). In his terms, political economy stresses the importance of recognizing that people exist within a larger historical, political, and economic context, at the intersection between the "local" and the "global." It also reminds us of the political construction of economies and hence the impossibility of studying either political or economic organization independently of the other [for a more specifically archaeological treatment, see Brumfiel and Earle (1987)].

There is undoubtedly a wide range of ways in which these directions can be pursued in studying the fourth millennium. Here I briefly outline only a few of them that seem to me especially promising.

Tantalizing potentials for new insights on Late Uruk and Jemdet Nasr times are becoming available through a major project studying the archaic texts from Warka and Jemdet Nasr, as well as the contemporary Proto-Elamite texts from Iran (Nissen *et al.*, 1990; Englund and Grégoire, 1991; Damerow and Englund, 1989). Characterizable primarily as "economic texts," these tablets record information such as the receipt and allocation of goods (including who, what, how much, and occasionally why); the size, composition, and employment of administered labor forces; and aspects of the production of some goods, especially agricultural and animal products. From these accounts, it is possible to infer aspects of the organization of some productive enterprises, hierarchies of authority (both political and economic) and social positions, bureaucratic and administrative practices in intricate detail, and ways in which time was politically and ideologically manipulated (on the latter point, see Englund, 1988). In short, studies of these documents offer the potential for rich understandings and interpretations of the political economy of the late fourth millennium.

Any study of the texts must also bear in mind a number of cautions. The available tablets are a limited sample, not just of the number that were probably written at the time but also because they most probably come from no more than a handful of major “public” institutions. [Although the exact derivation of most of the tablets is unknown since the majority were found in secondary (refuse) contexts, their original provenience is inferred from a combination of their contents and their findspots in an area of the site apparently dominated entirely by elaborate, presumably public, buildings.] In addition, written sources of whatever kind must be treated with the understanding that they were composed from a particular point of view and with a particular set of concerns. This means that much that we wish to know is left out and other things are presented from very much interested points of view that we may not be able entirely to grasp or define. Finally, since the first known texts date to the Late Uruk, and seemingly quite late in Late Uruk, they offer no *direct* information on preceding centuries.

Another traditional subject of study with considerable potential for new and innovative studies is the examination of sealing practices. It is no longer novel to point out that the study of seals is of interest for more than just chronological or descriptive art historical purposes, that inferences can be made about aspects of administrative and bureaucratic procedures. But studies of seals as administrative artifacts have often remained rather cursory overviews. In contrast, analyses that combine the iconography of seal designs, the morphology of the seals themselves, the distribution of seals and sealings, and the kinds of things that were sealed have the potential for producing in-depth understandings of administrative practices concerning the extraction and the allocation of goods subject to administered control, as well as implications for the relations of political and economic authority. The work of Charvát, who has examined changes in the kinds of objects and structures sealed over time (Charvát, 1988) and conducted an historical analysis of textual references related to sealing practices (Charvát, 1991), is one example of the kind of research that promises to produce interesting insights into cognitive and economic aspects of sealing practices. The forthcoming publication of sealings on the tablets from Jemdet Nasr offers additional possibilities for combining the analysis of sealing practices and textual information (Matthews, 1991).

Another fruitful research direction involves investigation of the production and consumption of goods within communities based on the evidence of finished products, tools and facilities used in their production, and by-products of production processes. Such studies require detailed examination of different kinds of products with attention to such questions as the size and social composition of producing groups; the degree of restriction of access to raw materials, tools, and facilities necessary to the production process as well as to the products; the strategies producers developed to cope with the demands of elites and admin-

istrators upon them; and the kinds of conflicts of interests that different demands would have created. In other words, analyses of production and consumption must proceed from the "bottom up," from the stance of the producer and consumer, not just from the top down. In this regard, the growing emphasis in anthropology and other social sciences on the household as a unit of analysis is useful and appropriate (for recent examples, see Smith, 1987; Wilk and Ashmore, 1988; Tringham, 1991).

Some beginnings in this direction have been made by researchers working on slightly later periods and concerned primarily with the study of animal husbandry practices (Stein, 1987; Wattenmaker, 1987). Detailed ecological studies that emphasize both the constraints imposed on human societies by the natural environment and the strategies people may use to cope with and manipulate their natural environment offer important sources of evidence which allow the building of increasingly sophisticated models of agricultural production and animal husbandry [see Charles (1989) for ecology and modern agricultural practices in southern Iraq]. A project that I conducted on the Uruk Mound of Abu Salabikh (Iraq) was designed to investigate the loci and composition of units of production and consumption in a fourth millennium community (preliminary reports include Pollock, 1990a,b; Pollock *et al.*, 1991). Studies of technological aspects of manufacturing processes along the lines of those undertaken by Nissen (1974, 1977), with a view to considering their implications in terms of the structure and composition of the labor force involved, are also promising lines of investigation (in this regard, see also Coursey, 1990).

Research of the sort proposed in the preceding paragraphs comes far short of exhausting the possibilities of investigating Uruk and Jemdet Nasr political and economic structures, not to mention a myriad of other topics that merit study. Furthermore, these proposals represent, as much as anything, an argument for the importance of reconceptualizing the questions that we consider to be important to understandings of the emergent civilizations of ancient Mesopotamia. Even when the ways to address these questions with archaeological evidence currently elude us, the exercise of posing them and identifying them as critical is not a useless one. These questions and the values they embody are not divorced from those with which we address the world in which we live.

### ACKNOWLEDGMENTS

A number of people took the time to read and comment thoughtfully on this manuscript. I would like to thank them all for their helpful suggestions and criticisms, only some of which I have followed: Judith Berman, Reinhard Bernbeck, Robert Englund, Marlies Heinz, Hans Nissen, Henry T. Wright, Norman Yoffee, anonymous reviewers, and the editor, Angela Close. I wrote this paper during my tenure as Research Fellow of the Alexander von Humboldt Foun-

dation at the Free University of Berlin. It is a pleasure to express my gratitude to the Foundation for this opportunity and to Hans Nissen, whose invitation to apply for the fellowship made it possible in the first place.

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